



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

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Application Serial No. 10/593,751

Filed: September 22, 2006

Art Unit: 3721

Examiner: Stephen Francis Gerrity

**APPLICATION OF ZIPPER LENGTHS TO A WEB**

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Ex parte: Murray Edward Bruce Leighton  
Robert Ackroyd

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**BRIEF FOR THE APPELLANTS**

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**ITW Ref.: 15552/US**  
**DP Ref.: 769-400**

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I. REAL PARTY IN INTEREST

The real party in interest is assignee Illinois Tool Works Inc.

II. RELATED APPEALS AND INTERFERENCES

None

III. STATUS OF CLAIMS

Claims 1-3, 5-11 and 14-21 are rejected and are being appealed herein.

Claims 4, 12, 13, 22 and 23 are canceled.

IV. STATUS OF AMENDMENTS

An amendment was dated September 29, 2009 in response to the Office Action of June 29, 2009. This amendment was entered for purposes of appeal pursuant to the Advisory Action dated October 14, 2009. A Notice of Appeal was electronically filed on October 29, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A first aspect of the presently claimed invention, pursuant to Claim 1, is an apparatus for applying pre-cut lengths of zipper transversely to a moving web of material at intervals spaced in the direction of movement of the web, comprising: means for advancing a web of material in a predetermined direction (page 5, lines 12-21; Figure 1, elements 10, 12, 14, 16); a turret (page 5, lines 18-21; Figure 1, element 18) having a surface containing a plurality of circumferentially-spaced axially-extending grooves for receiving pre-cut lengths of zipper (page 5, lines 28-32; Figure 1, elements 30a, 30b, 30c); means for driving the turret to rotate about an axis of rotation (page 5, lines 22-25; Figure 1, element 22); the turret being positioned relative to the web so that the axis of rotation extends transversely to the direction of advancement of the web (page 5, lines 22-27; Figure 1, element 22) and, upon rotation of the turret, the grooves in its surface are brought successively to a location in which pre-cut zipper lengths occupying the grooves are presented for attachment to the web (page 7, line 27-page 8, line 9; Figure 1, elements 28, 30a, 30b, 30c); means for feeding pre-cut lengths of zipper (page 7, lines 14-27; Figure 1, elements 28, 48, 50, 52, 54 and 58) comprising first and second interengageable profiles and a slider mounted (page 6, lines 5-7 and 10-14; Figure 1, elements 34, 46) thereon successively to the grooves of the turret at a loading location different from the attachment location, wherein grooves in the turret include a wider portion for receiving the slider on each pre-cut zipper length (page 5, line 34 – page 6, line 4; Figure 1, elements 30a, 30b, 30c); means for causing removal of pre-cut zipper lengths from the grooves of the turret at the attachment location and for attachment of the zipper lengths to the web (page 7, line 31 – page 8, line 2; Figure 1, element 60); and a slider mounting device (page 6, lines 15-20; element 42) for mounting sliders on the

zipper so each length of zipper fed to the turret has a slider mounted thereon (page 6, line 17-20; Figure 1, elements 46 and 58).

A second aspect of the presently claimed invention, pursuant to Claim 14, is a method of applying pre-cut lengths of zipper transversely to a moving web of material at intervals spaced in the direction of movement of the web, comprising providing a web of material (page 5, line 13; Figure 1, elements 10 and 12); advancing the web in a predetermined direction past a rotary turret (page 5, lines 18-21; Figure 1, element 18) positioned to rotate about an axis transverse to the predetermined direction (page 5, lines 23-27; Figure 1, element 22) and having a surface containing a plurality of circumferentially-spaced axially-extending grooves for receiving pre-cut lengths of zipper (page 5, lines 28-32; Figure 1, elements 30a, 30b, 30c); the turret being positioned relative to the web so that, upon rotation, the zipper-receiving grooves thereof are brought successively to a zipper-application location in which zipper lengths occupying the grooves are presented for application to the web in directions extending transversely thereof (page 7, line 27-page 8, line 9; Figure 1, elements 28, 30a, 30b, 30c); feeding pre-cut lengths of zipper to successive zipper-receiving grooves of the rotary turret at a location different from the zipper-application location (page 7, lines 14-27; Figure 1, elements 28, 48, 50, 52, 54 and 58) each zipper length comprising first and second interengageable profiles and a slider mounted thereon (page 6, lines 5-7 and 10-14; Figure 1, elements 34, 46), wherein grooves in the turret include a wider portion for receiving the slider on each pre-cut length of zipper (page 5, line 34 – page 6, line 4; Figure 1, elements 30a, 30b, 30c); rotating the turret to advance the zipper lengths successively from the receiving location to the application location (page 7, lines 23-30; Figure

1, elements 28, 30a, 30b, 30c); and attaching the zipper length to the web at the zipper-application location (page 7, line 31 – page 8, line 3; Figure 1, element 60).

VI. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL

1. Are Claims 1, 5-9, 14, 15 and 17-19 patentable under 35 U.S.C. §103(a) over the Leighton reference (G.B. Patent No. 2,349,603) in view of the Buchman reference (U.S. Patent No. 6,588,176)?
2. Are Claims 2, 3 and 16 patentable under 35 U.S.C. §103(a) over the Leighton reference in view of the Buchman reference in view of the applicant's alleged admission of prior art?
3. Are Claims 10, 11, 20 and 21 patentable under 35 U.S.C. §103(a) over the Leighton reference in view of the Buchman reference in view of the applicant's alleged admission of prior art?

Two rejections of Claims 12 and 13 under 35 U.S.C. §102 (b) are moot as these claims have been canceled, without prejudice or disclaimer.

Additionally, rejections under 35 U.S.C. §112, second paragraph, were withdrawn further to the Advisory Action of October 14, 2009.

VII. ARGUMENTS

1. Are Claims 1, 5-9, 14, 15 and 17-19 patentable under 35 U.S.C. §103(a) over the Leighton reference (G.B. Patent No. 2,349,603) in view of the Buchman reference (U.S. Patent No. 6,588,176)?

The Office Action states that the Leighton reference does not teach pre-cut lengths zipper having a slider mounted thereon during the manufacturing process. It appears that the Buchman reference was cited merely for the purpose of suggesting that a zipper in transit could include a slider. It appears that such a combination not only is the result of the wisdom of hindsight gained after review of the disclosure, but also that such a combination would not suggest the in-line application of a slider to zipper before the zipper is driven into the turret (i.e. “means for feeding pre-cut lengths of zipper comprising first and second interengageable profiles and a slider mounted thereon successively to the grooves of the turret at a loading location different from the attachment location” as recited in Claim 1), would not suggest the turret having (plural) grooves into which the zipper is driven (see previous claim quotation). Moreover, Claim 1 recites “wherein grooves in the turret include a wider portion for receiving the slider on each pre-cut zipper length” (with a similar amendment to Claim 14). Such a structure in the grooves in the turret are to accommodate the slider along with the zipper, and nothing in the cited references would teach or suggest such a structure.

It is therefore respectfully submitted that this rejection is overcome.

2. Are Claims 2, 3 and 16 patentable under 35 U.S.C. §103(a) over the Leighton reference in view of the Buchman reference in view of the applicant's alleged admission of prior art?

Claims 2, 3 and 6 are dependent upon Claim 1, which is patentable for the reasons as discussed above. The rotary slider applicator does nothing to overcome the rejection of claim 1 with respect to Leighton and Buchman as described above. As Claim 1 is patentable, it is respectfully submitted that Claims 2, 3 and 6 are patentable for the same reasons.

It is respectfully submitted that this rejection is overcome.

3. Are Claims 10, 11, 20 and 21 patentable under 35 U.S.C. §103(a) over the Leighton reference in view of the Buchman reference in view of the applicant's alleged admission of prior art?

Claims 10 and 11 are dependent upon Claim 1 and Claims 20 and 21 are dependent upon Claim 14. Claims 1 and 14 are patentable for the reasons as discussed above. The conversion of a zippered web into bags which are subsequently filled does nothing to overcome the rejection of Claims 1 and 14 with respect to Leighton and Buchman as described above. As Claims 1 and 14 are patentable, it is respectfully submitted that Claims 10, 11, 20 and 21 are patentable for the same reasons.

It is respectfully submitted that this rejection is overcome.

The Board is respectfully requested to find all of the presently pending claims to be allowable.

Respectfully submitted,



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VIII. CLAIMS APPENDIX

1. An apparatus for applying pre-cut lengths of zipper transversely to a moving web of material at intervals spaced in the direction of movement of the web, comprising:
  - means for advancing a web of material in a predetermined direction;
  - a turret having a surface containing a plurality of circumferentially-spaced axially-extending grooves for receiving pre-cut lengths of zipper;
  - means for driving the turret to rotate about an axis of rotation;
    - the turret being positioned relative to the web so that the axis of rotation extends transversely to the direction of advancement of the web and, upon rotation of the turret, the grooves in its surface are brought successively to a location in which pre-cut zipper lengths occupying the grooves are presented for attachment to the web;
  - means for feeding pre-cut lengths of zipper comprising first and second interengageable profiles and a slider mounted thereon successively to the grooves of the turret at a loading location different from the attachment location, wherein grooves in the turret include a wider portion for receiving the slider on each pre-cut zipper length;
  - means for causing removal of pre-cut zipper lengths from the grooves of the turret at the attachment location and for attachment of the zipper lengths to the web; and
  - a slider mounting device for mounting sliders on the zipper so each length of zipper fed to the turret has a slider mounted thereon.
2. An apparatus according to claim 1, wherein the slider mounting device comprises a rotary slider applicator.

3. An apparatus according to claim 2, in which a knife is located between the slider applicator and the feeding location for cutting a continuous supply of zipper into the pre-cut lengths.
5. An apparatus according to claim 1, in which each wider portion extends to slightly beyond the mid-point of its respective groove from an insertion end thereof.
6. An apparatus according to claim 1, in which the means for removal and attachment of the zipper lengths comprises a heated sealing bar which is movable towards and away from the film and is located adjacent the attachment location at the opposite side of the film to the turret.
7. An apparatus according to claim 1, in which the slider mounting device produces a zipper having its profiles disengaged from each other and the apparatus includes, between the slider mounting device and the turret, a device for engaging the zipper profiles with each other, the engaging device comprising a pair of rollers through the nip of which the zipper passes and which are arranged to engage the profiles of the zipper with each other and to separate from each other to allow the sliders to pass therebetween.
8. An apparatus according to claim 7, in which the roller surfaces forming the nip are convex.

9. An apparatus according to claim 1, including a form-fill-seal machine arranged to receive the web with zippers attached and to form the web into bags and to fill the bags with a product, the zipper lengths forming reclosable fasteners of the bags.

10. An apparatus according to claim 1, including a machine arranged to receive the web with zippers attached and to form the web into bags for subsequent filling with a product, the zipper lengths forming reclosable fasteners of the bags.

11. An apparatus according to claim 1, including a means for forming the web with zippers attached into a roll for subsequent use in making empty bags or in a form-fill-seal machine.

14. A method of applying pre-cut lengths of zipper transversely to a moving web of material at intervals spaced in the direction of movement of the web, comprising

providing a web of material;

advancing the web in a predetermined direction past a rotary turret positioned to rotate about an axis transverse to the predetermined direction and having a surface containing a plurality of circumferentially-spaced axially-extending grooves for receiving pre-cut lengths of zipper;

the turret being positioned relative to the web so that, upon rotation, the zipper-receiving grooves thereof are brought successively to a zipper-application location in which zipper lengths occupying the grooves are presented for application to the web in directions extending transversely thereof;

feeding pre-cut lengths of zipper to successive zipper-receiving grooves of the rotary turret at a location different from the zipper-application location, each zipper length comprising first and second interengageable profiles and a slider mounted thereon, wherein grooves in the turret include a wider portion for receiving the slider on each pre-cut length of zipper;

rotating the turret to advance the zipper lengths successively from the receiving location to the application location; and

attaching the zipper length to the web at the zipper-application location.

15. A method according to claim 14, in which the zipper lengths are attached to the web by means of a heated sealing bar which is movable towards and away from the film and is located adjacent the attachment location at the opposite side of the film to the turret.

16. A method according to claim 14, in which the sliders are mounted on the zipper lengths by use of a rotary slider applicator.

17. A method according to claim 14, in which the sliders are mounted on a continuous length of zipper which is subsequently cut into lengths.

18. A method according to claim 14, in which the zipper profiles are disengaged during mounting of the sliders thereon and are re-engaged prior to feeding to the turret, re-engagement being by passing the zipper between the nip of a pair of rollers which are arranged to separate from each other to allow the sliders to pass therebetween.

19. A method according to claim 14, including the further step of feeding the web with zippers attached to a form-fill-seal machine arranged to receive the web with zippers attached and to form the web into bags and to fill the bags with a product the zipper lengths forming reclosable fasteners of the bags.

20. A method according to claim 14, including the further step of feeding the web with zippers attached to a machine for forming the web into bags for subsequent filling with a product, the zipper lengths forming reclosable fasteners of the bags.

21. A method according to claim 14, including the further step of forming the web with zippers attached into a roll for subsequent use in making empty bags or in a form-fill-seal machine.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None